



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,265	03/31/2006	Mitsuteru Mutsuda	2224-0255PUS1	9018

2292 7590 09/08/2009  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
----------

FREEMAN, JOHN D

ART UNIT	PAPER NUMBER
----------	--------------

1794

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

09/08/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,265	<b>Applicant(s)</b> MUTSUDA ET AL.	
	<b>Examiner</b> John Freeman	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 1794

***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-21, in the reply filed on 4 May 2009 is acknowledged. The traversal is on the ground(s) that the various claims are "so intertwined with each other" as to present a special technical feature under PCT Rule 13.2. This is not found persuasive because, as noted in the Restriction Requirement mailed 3 April 2009, a "special technical feature" as defined by Rule 13.2 constitutes a technical feature that defines a contribution which each of the claimed inventions, considered, as a whole makes over the prior art. The Restriction Requirement noted the International Searching Authority identified two references that anticipated the independent claims of the inventions. Therefore, any technical feature linking the two inventions was known in the art at the time of the invention, and therefore cannot make a contribution over the prior art as required by Rule 13.2.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 22-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4 May 2009.

***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it is too long. Correction is required. See MPEP § 608.01(b).

Art Unit: 1794

***Claim Objections***

5. Claims 7 and 16 are objected to because of the following informalities: The claims recite "the former/the latter =". In order to avoid confusion of the scope of the claims and to ensure proper antecedent basis, the examiner suggests "the former/the latter" are replaced with what they represent, or simply deleted.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikuta et al. (US 2003/0118839).

8. Ikuta discloses alicyclic polyamides [0040]. The examiner takes the position they are "directly joinable" to a thermoplastic polyurethane resin because they are the same as presently claimed.

Art Unit: 1794

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auber et al. (AU 674465) in view of Matsumoto et al. (US 4,410,595).

11. Regarding claims 1 and 20:

12. Auber discloses a composite comprising a layer thermoplastic polyetheramide elastomer and a layer of thermoplastic polyurethane (claims 1-2).

13. Auber is silent with regard to the use of a polyurethane containing polyether segments.

14. Matsumoto discloses a laminate comprising one layer which comprises a thermoplastic polyurethane elastomer, and a layer of another material (col 2 ln 9-39). The other material can be a thermoplastic polyamide (col 8 ln 47-56). Matsumoto uses polyether-diols to form the polyurethane, and therefore the polyurethane contains polyether segments (col 2 ln 54-57). The composites exhibit enhanced processability, and good soft and flexible characteristics (col 1 ln 10-12).

15. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use a polyurethane containing polyether segments, i.e. a polyetheramide as taught by Matsumoto, as the thermoplastic polyurethane to arrive at a composite with enhanced processability, and good soft and flexible properties.

16. Regarding claims 2-14:

17. While the present claims further limit the identity of the Ib, the claim does not require its presence to meet the claim.

18. Regarding claim 15:

19. Auber uses polyoxyalkylene components such as polyoxytetramethylene glycol (p5 ln 11-17).

Art Unit: 1794

20. Regarding claim 16:

21. Auber teaches an exemplary polyetheramide comprises 95-15% polyamide blocks and 5-85% polyether blocks (p 5 ln 11-17).

22. As set forth in MPEP 2144.05, in the case where the claimed range “overlap or lie inside ranges disclosed by the prior art”, a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

23. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to vary the ratio of polyamide blocks to polyether blocks, including over the presently claimed range, to arrive a composite with enhanced processability, and good soft and flexible properties as desired.

24. Regarding claim 17:

25. Matsumoto teaches the use of polytetramethylene ether glycol and polyethylene ether glycol, which create polyoxyalkylene segments (col 2 ln 54-57).

26. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to follow the teaching of Matsumoto to create a polyurethane having a polyether soft segment to arrive at a composite with enhanced processability, and good soft and flexible properties.

27. Regarding claim 18:

28. Auber teaches an exemplary polyetheramide comprises 95-15% polyamide blocks and 5-85% polyether blocks (p 5 ln 11-17).

29. As set forth in MPEP 2144.05, in the case where the claimed range “overlap or lie inside ranges disclosed by the prior art”, a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

30. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to vary the amount of polyether blocks, including over the presently claimed range, to arrive a composite with enhanced processability, and good soft and flexible properties as desired.

31. Matsumoto is silent with regard to the weight amount of the polyether segment. However, Matsumoto discloses molecular weight values of 8,000 for the polyoxyalkylene segments (col 2 ln 60-62), and also teaches the molar ratio of the active hydrogen atoms of the polyether segments and the

Art Unit: 1794

isocyanate groups of the diisocyanate compounds should be approximately 1 (col 2 ln 43-53). Given each polyether is bifunctional and each diisocyanate is bifunctional, equal moles of each are taught by Matsumoto. The high molecular weight values of the polyether segment are much higher than the molecular weights of the diisocyanate compounds. Therefore, for a given number of reacted moles, the polyurethane contains a higher proportion by weight of polyether segments. Therefore, the examiner takes the position Matsumoto discloses a thermoplastic polyurethane having polyether segments in amounts falling within the presently disclosed broad range of 10-90% by weight.

32. Regarding claim 19:

33. Auber teaches the use of the composite in shoes (p2 ln 19-24).

#### ***Claim Rejections - 35 USC § 112***

34. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

36. Claims 1-21 are replete with the use of the modifier "series" in conjunction with polymers, e.g. non-urethane-series and polyurethane-series. It is not clear how the term "series" modifies the polymer identity, or what is encompassed by the modified terms.

37. Claim 6 recites a polyamide component that is "obtainable" by using an alicyclic diamine. It is unclear whether the polyamide must be formed from an alicyclic diamine, or merely *be able* to be formed from an alicyclic diamine.

38. Claim 20 twice recites a non-urethane-series thermoplastic resin "directly joinable" to a thermoplastic polyurethane-series. It is unclear whether claim 20 describes a composite article, or merely a non-urethane thermoplastic resin that *can be* joined to a thermoplastic polyurethane. The fact claim 21 is directed toward "a resin" indicates, claim 20 describes merely a resin, not a composite.

Art Unit: 1794

39. Claim 20 recites the limitation "the thermoplastic polyurethane-series resin having a polyether segment" in lines 11-13. There is insufficient antecedent basis for this limitation in the claim.

### ***Conclusion***

40. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wakita '494 discloses directly joining a polyamide resin to a polyurethane resin. Other references cited on the ISR have been considered, but merely would substantially duplicate the rejections above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Freeman  
Examiner  
Art Unit 1794

/John Freeman/  
Examiner, Art Unit 1794

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794